



R-TOC Pilot Program

B-1



SPD -- Col. Ben McCarter

TOC CATEGORY:

Mod Program

Overview

Baseline TOC/TOC

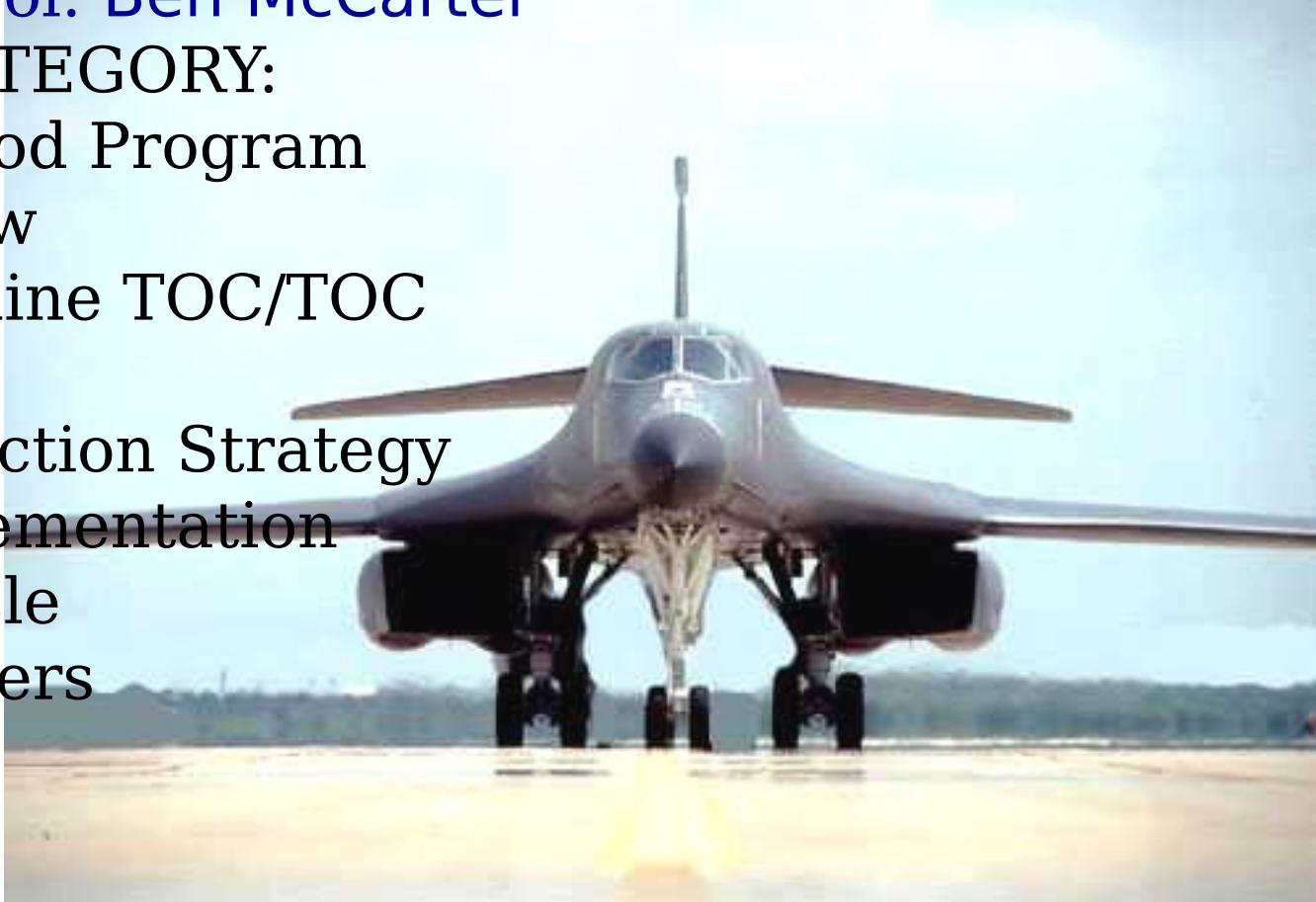
Tool

Reduction Strategy

Implementation

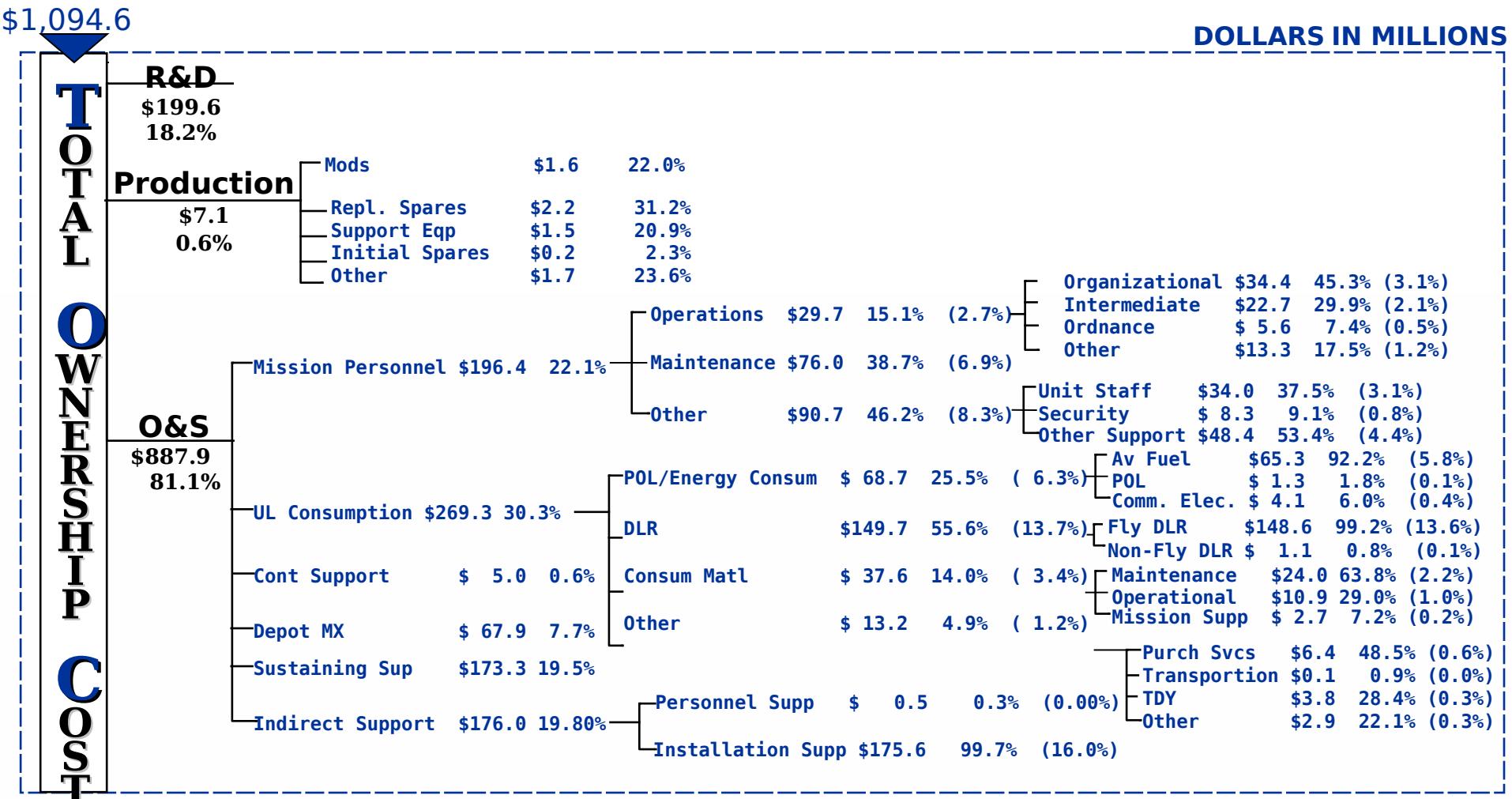
Vehicle

Barriers





B-1 R-TOC Baseline

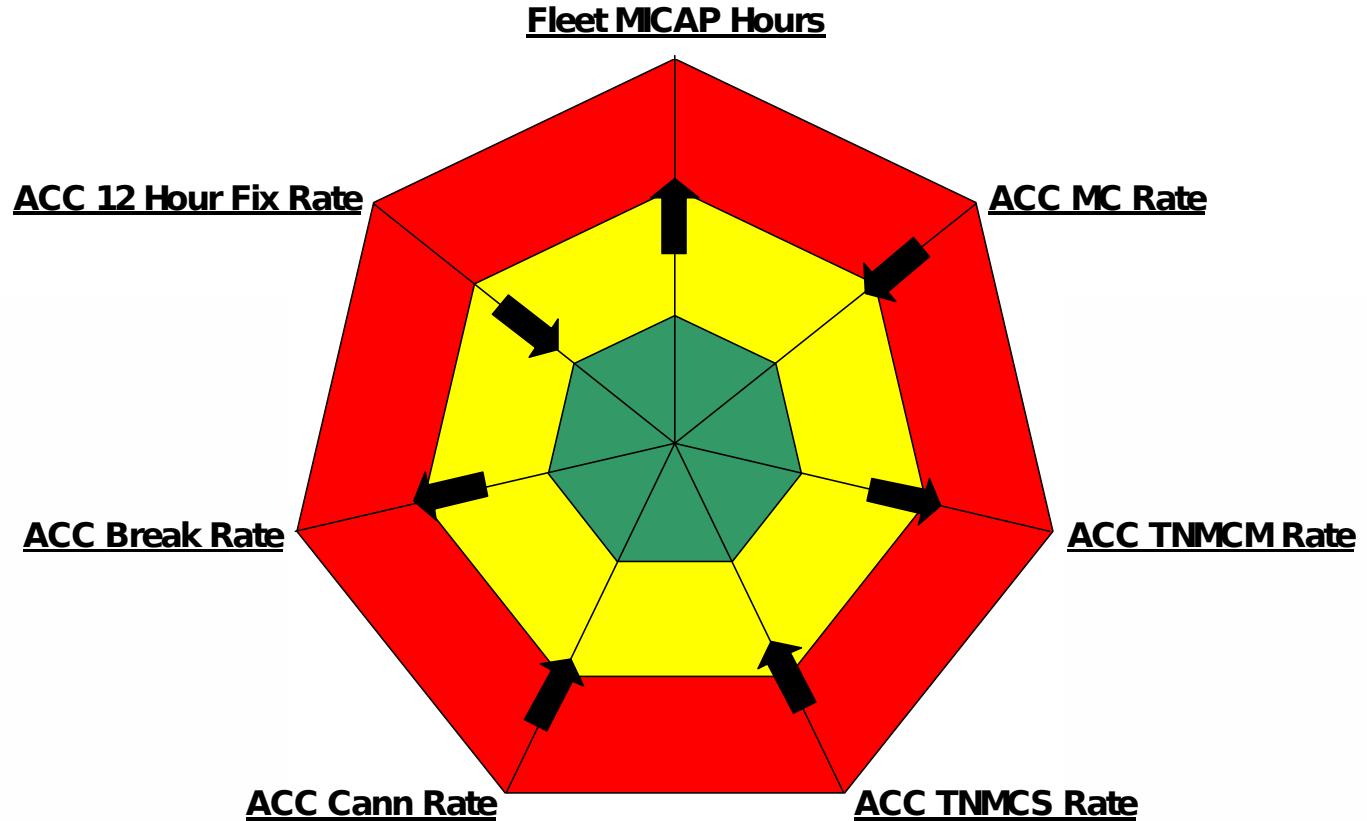


O&S costs are from ACC Cost of Ownership data for FY97.

R&D and Procurement costs are from AFTOC FY97 data.



B-1 Spider Diagram





Methodology

- 3 Methods to Reduce Total Ownership Costs
 - Modify Business Practices
 - Modify Weapon System
 - CMUP
 - Sustainment
 - Operational Changes that can affect savings



B-1 Reduction in Total Ownership Cost Program

- Acquisition Reform
 - TOPS
 - CAIV
- CMUP Programmed Modifications
 - BLOCK's D, E and F
- Sustaining Engineering Modifications
 - LANCER (Engines)
 - EEPROMs
 - CDDS
 - Supportability Improvement Program (SIP)
- COO Red Team/CRIPT Initiatives



Acquisition Reform in R-TOC

- Teaming On Proposals - TOPs
 - Reduces the time from requirements definition to contract award
 - From an average 400 days down to 261 days
 - Reduced manpower effort, both Contractor and Government
- Cost As an Independent Variable - CAIV
 - DSUP CAIV Effort Very Successful
 - Analyzed ALQ-161 & pod solutions
 - Modified IDECM-based architecture
 - Reduced number of LRUs - 67%
 - Reduced program cost ~ \$250M
 - O&S savings - \$50M/Yr (vs ALQ-161)
 - Computers went through a similar process



P-1B DSUP - A CAIV Success

	<u>ALQ-161</u>
Cost Est	N/A
\$747M	
LRUs	120
WT	5284
MTBF	18 HRS
HRS	

DSUP - Pre-CAIV

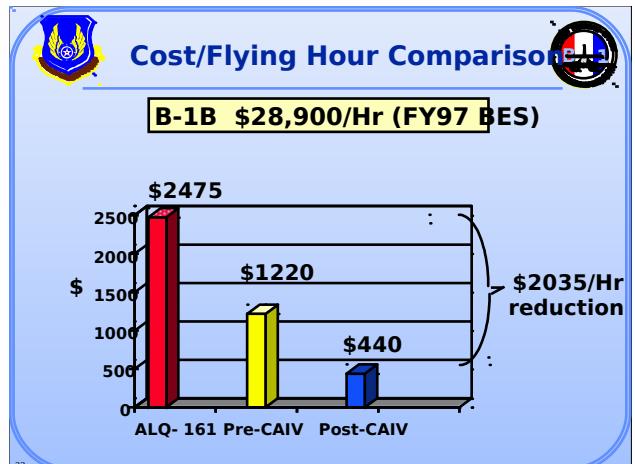
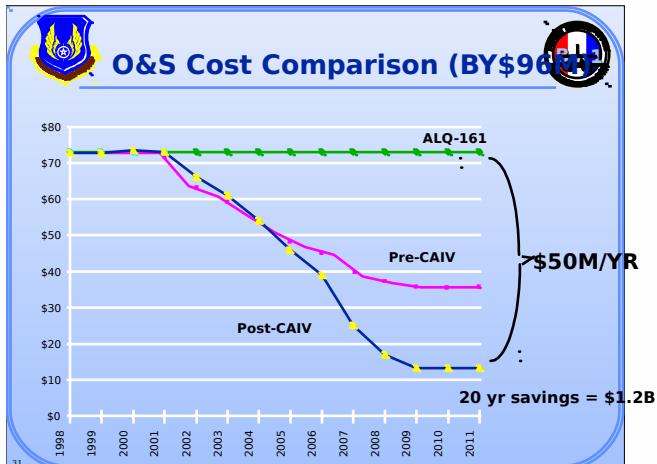
\$989M

93
2413
62 HRS

DSUP - Post-CAIV

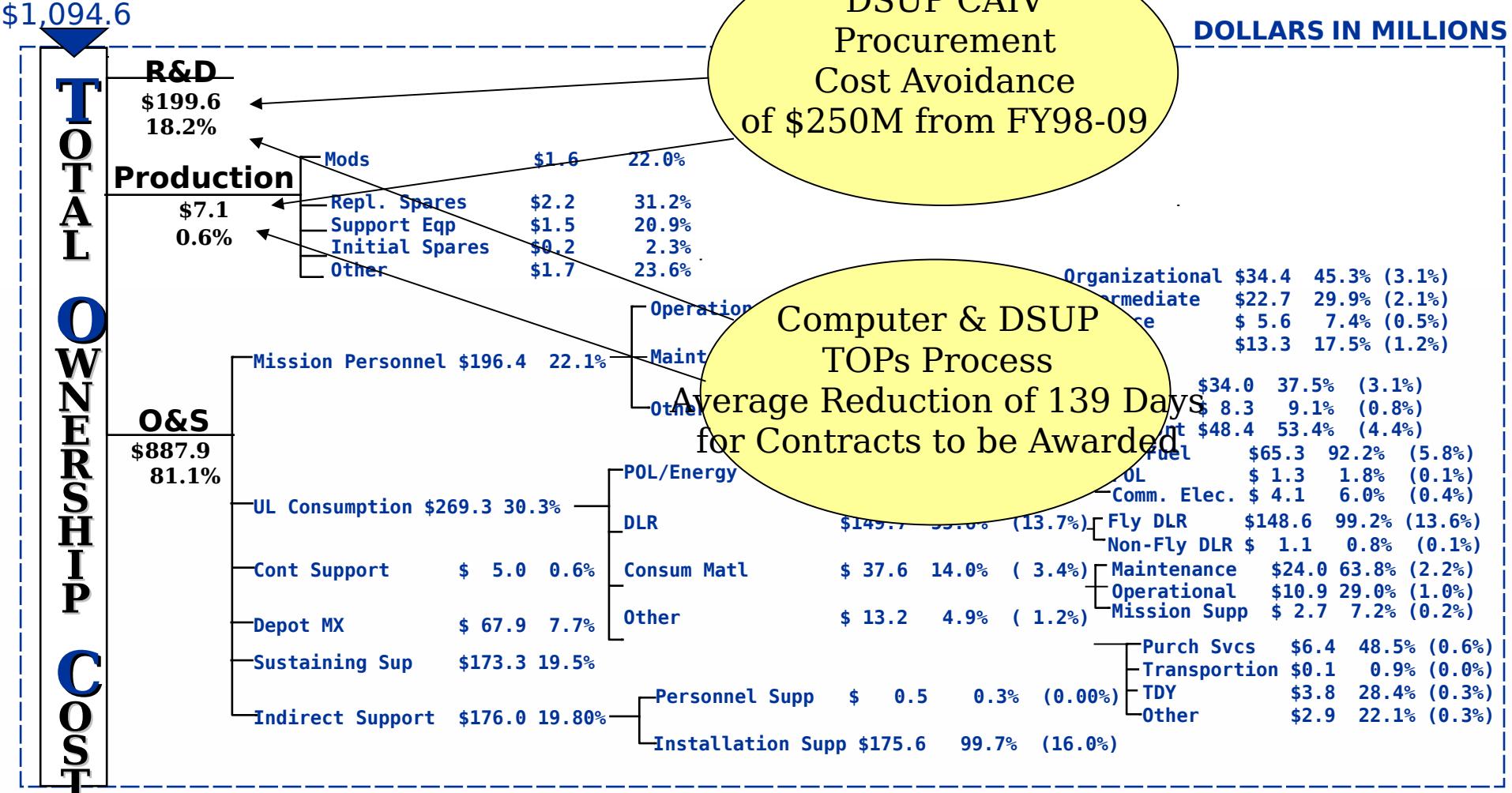
34
1000
112

- RQMTS**
- ✓ Jamming**
- ✓ SA**
- ✓ Interop**
- ✓ Nuke**
- ✓ R&M**
- ✓ Growth**





B-1 Acquisition Impacts to R-TOC Baseline

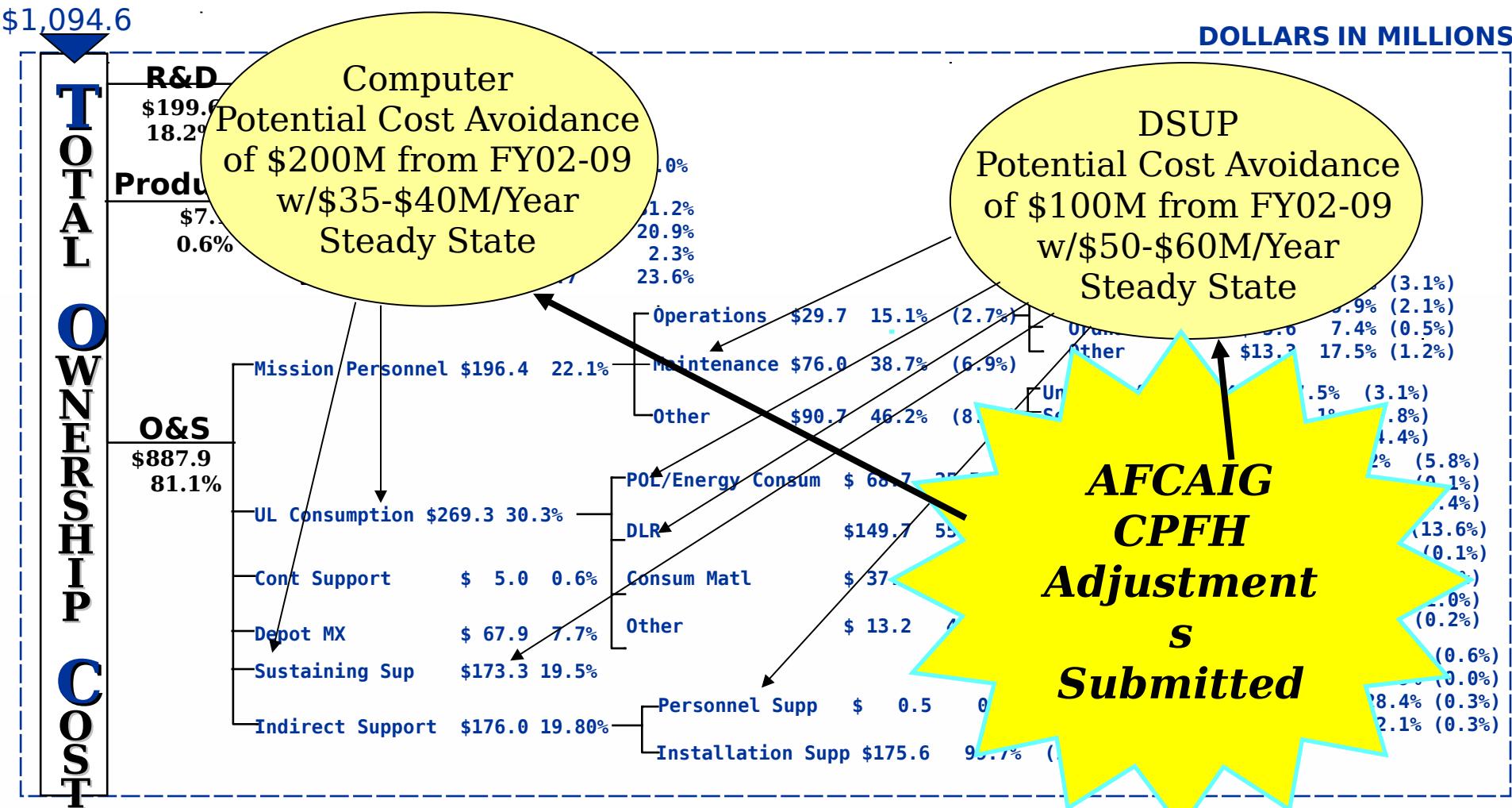


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Programmed Mods O&S Impacts to B-1 R-TOC Baseline





Sustaining Engineering Modifications

- Lancer (Engine Mods) - \$3.9M/Yr
- CITS Deployable Diagnostic System (CCDS) - \$1.5M/Yr
- EEPROMs - \$5.3M/Yr
- 4 Year to 5 Year Programmed Depot Maint. (PDM) - \$17.9M/Yr Budget Reduction Starting FY99
- 22 Tech Order procedural changes from our Sustaining Engineering's Supportability Improvement Program (SIP) - \$6.5M/Yr

All the above efforts are in various stages of being fielded and full cost avoidance should be realized during FY00



B-1 Cost Reduction Integrated Product Team (CRIPT) Overview

- B-1 Cost of Ownership IPT Established Aug 97
 - SPO, PEO, ACC, ANG, Contractors, AF Depots
 - Goal
 - Create a TOC Conscious Culture in B-1 Community
 - Integrate with other SPO processes
- Identified over 50 Initiatives
 - Four Initiatives Implemented
 - Six Proposals Presented to COMACC - “Quick Kill” Implementation
 - Tentatively Approved
 - COMACC: “Give Me More”
- B-1 Added as Air Force R-TOC Pilot Program



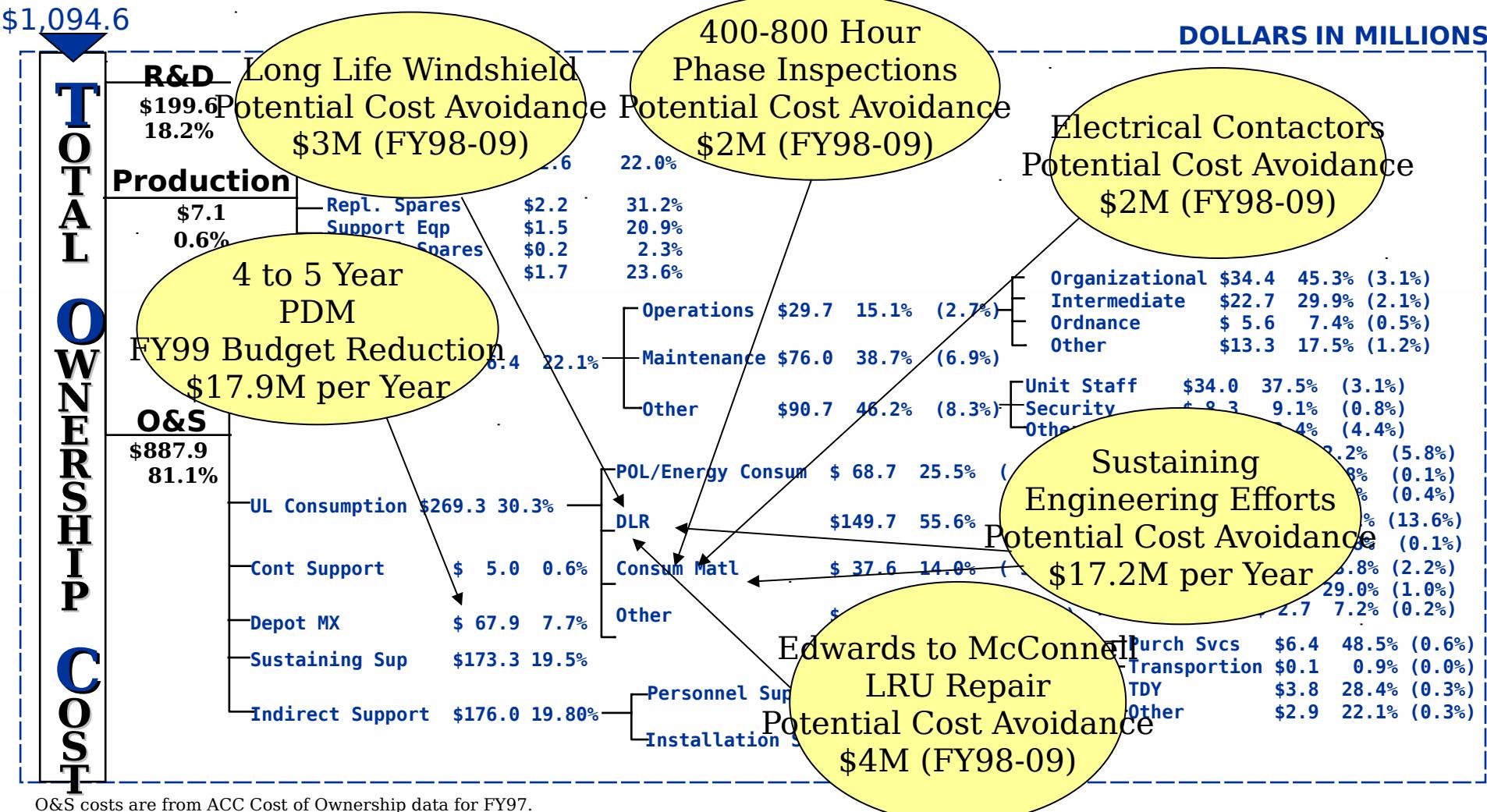
B-1 Cost Reduction Integrated Product Team (CRIPT)



- COO Red Team/CRIPT Initiatives
 - 51 Initiatives in review
 - Four Implemented
 - Long Life Windshield
 - 400-800 Hour Phase Inspections
 - Electrical Contactor
 - Edwards to McConnell LRU Repair
 - 6 Presented to COMACC for Recommended Implementation
- CRIPT Cost Tracking/Reporting Database in Work
- WEB Page: <https://boneweb.cal.boeing.com/>



Implemented Initiatives Impacts to B-1 R-TOC Baseline





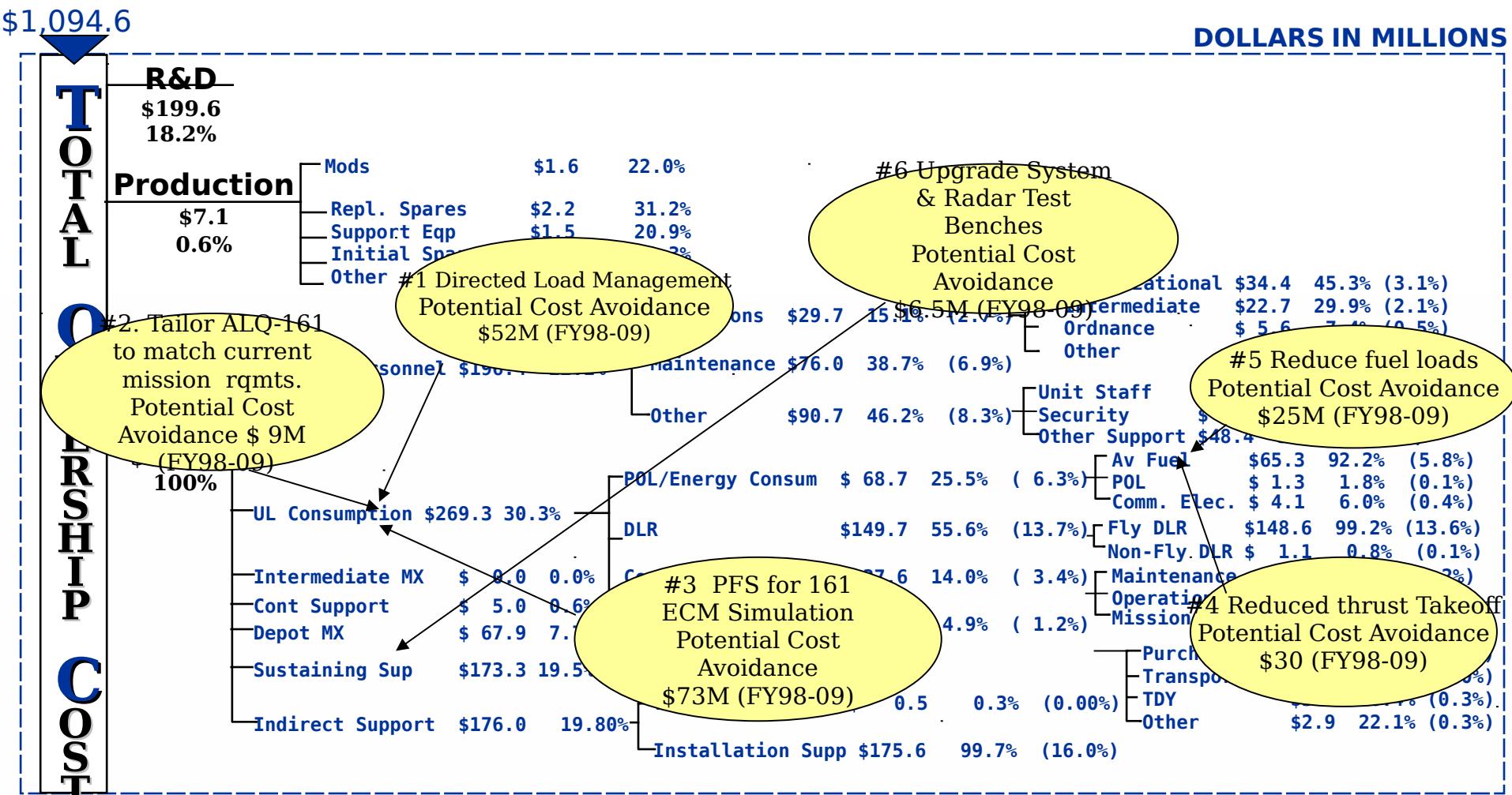
Proposed Initiatives (Cost Avoidance FY99-09)

- 1. ALQ 161 - Load Mgt**
\$52M
- 2. ALQ 161 - Tailoring to MNS** **\$ 9M**
- 3. ALQ 161 - PFS for ECM Sim**
\$73M
- 4. Mil Power Takeoffs**
\$30M
- 5. Reduced Fuel Loads**
\$25M
- 6. Upgrade RTB/STB's**
\$6.5M



Proposed Initiatives

Impacts to B-1 R-TOC Baseline



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CRIPT is the B-1's Implementation Vehicle for R- TOC

- Aug 97 Set-up IPT With SPO, PEO, Air Staff, ACC, Contractors
- Goal Is to Develop, Understand, Articulate
 - Current TOC and Recent Changes/Trends
 - Projected TOC Based on Programmed Activities
 - Additional Viable TOC Reduction Initiatives
 - Near Term, Longer Term
- 51 Initiatives Identified to Date
- WEB Page is
<https://boneweb.cal.boeing.com/>
- CRIPT Cost Tracking/Reporting Database in work



CRIPT Database for Cost Tracking/Reporting Initiatives



- Project Tracker Data base built to track RM&S Improvement Projects
- Stores detailed Background/Solution/Status data
- Tracks project status category
- Stores detailed funds data (investment and savings)
- Stores ABIDES baseline data
- Produces Action Plans, Delta Cost charts, and updated web pages



CRIPT Database for Cost Tracking/Reporting Initiatives



Project Data Entry Form

Combined Project Data

[Main Menu](#)[Show All Records](#)

Date of Last Revision: 29-Jul-97

SIP Number: 8

Project Name: Radar Interface Test Equipment

Project Type: New Support Equipment

ROI: 2.0

Background:

O/I Man-hr Savings(Hrs): 11,144

Annual Cost Savings(\$M): 7.127

Mod Number:

MIP Number:

Solution:

Implemented:

Status

Disapproved: In Review: Action Required:

AFTO 22 Number:

Action Plan:

Status:

The Offensive Radar System (ORS) has experienced excessive Cannot Duplicate (CND)/No Defect rates, resulting in high work loads and backlogs on the IATE.

Purchase the Radar Interface Test Set (RITE) for flight line testing of the ORS.

POC: Lewis Daley



Further action required. RITE has been replaced with a Boeing test set. We are going to incorporate the updated cost data from Boeing EA and carry this as a "further

Funds Requirements and Cost Savings

Funds Type: 3010/1000

FY (yyyy): 1998

1999

2000

2001

2002

2003

Amount (\$M):

0.0000

3.0000

0.0000

0.0000

0.0000

0.0000

2004

2005

2006

2007

2008

2009

0.0000

0.0000

0.0000

0.0000

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2010

2011

2012

2013

2014

2015

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2016

2017

2018

2019

2020

2021

0.0000

0.0000

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0.0000

2022

2023

2024

2025

2026

2027

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

Record:



7



of 106



Programmed Mods Projected Impacts (FY99-09)

- 1. GPS/COMM/JDAM/1760 (\$7M)**
- 2. Computer Upgrade \$200M**
- 3. Defensive System Upgrade \$100M**
- 4. Long Life Windshield \$3M**
- 5. Phase Inspections \$2M**
- 6. Edwards to McConnell LRU Repair \$4M**

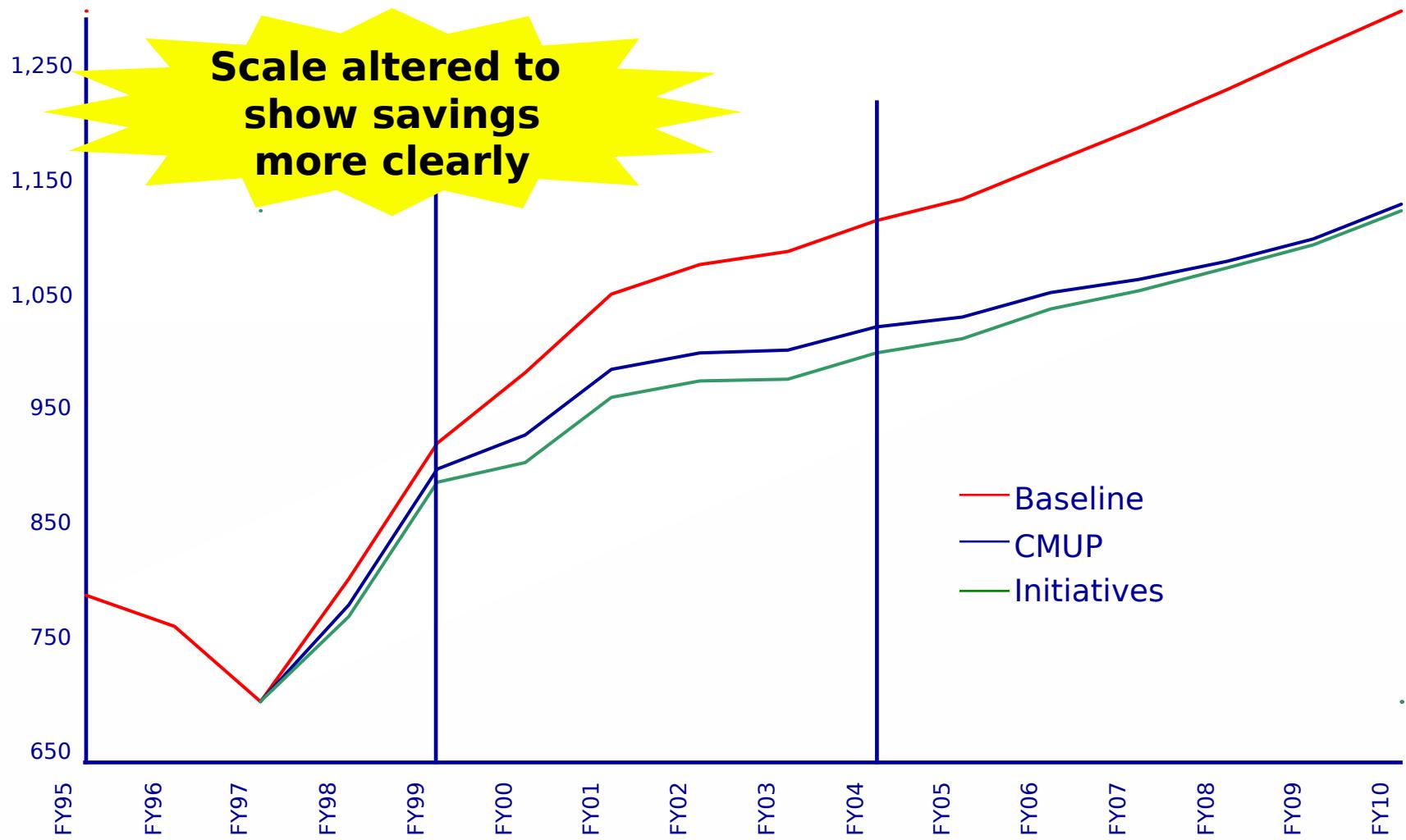


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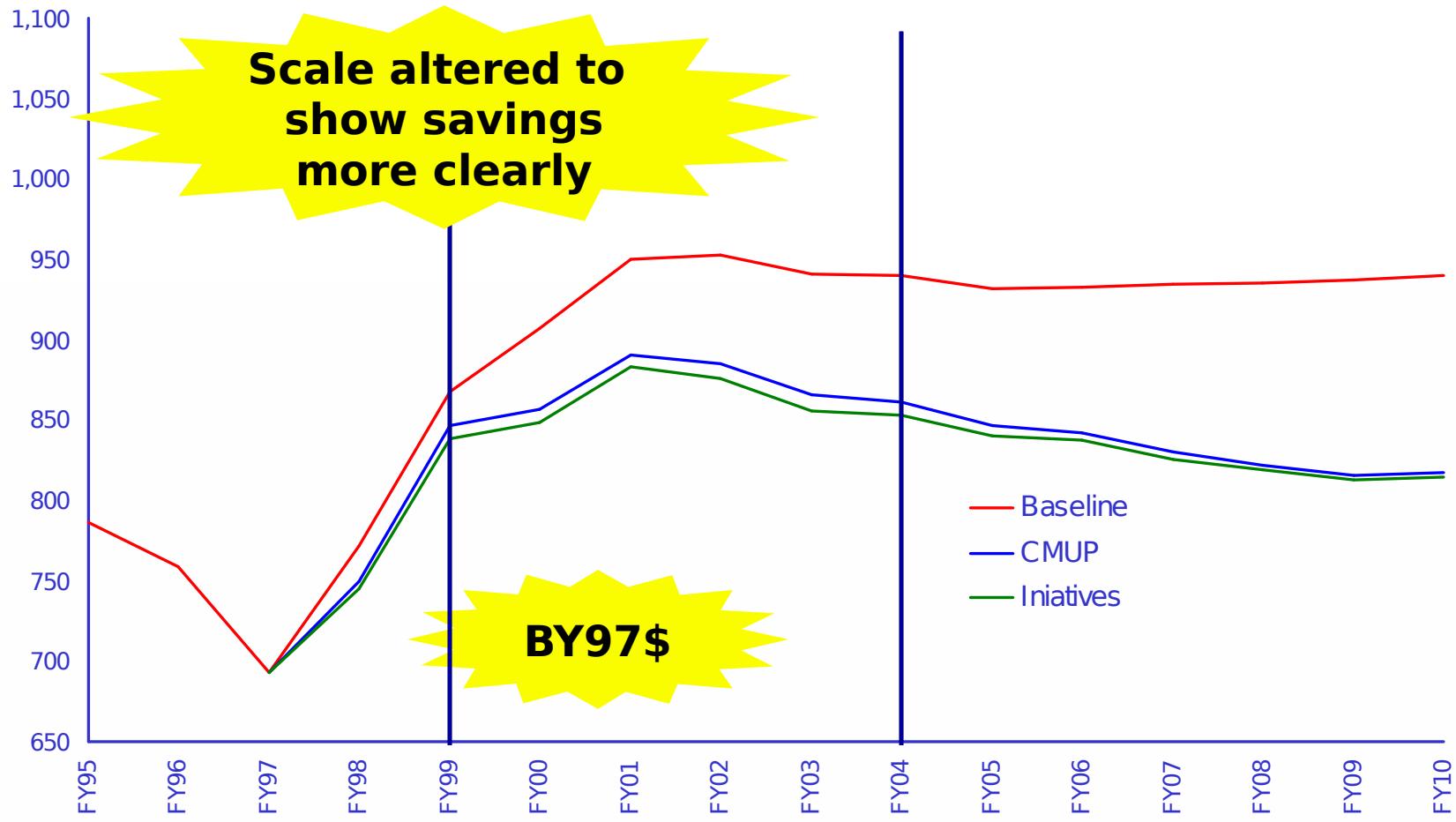


Potential Impacts on B-1 Cost of Ownership





Potential Impacts on B-1 Cost of Ownership





B-1 TOC Summary (Cost Avoidance FY98-09)

- CAIV \$250M
- Programmed Mods \$300M
- Implemented Initiatives \$362M
- Proposed Initiatives (Up To) \$178M



Future Options

F-16/B-1/B-2? Common Radar System

- Reduce cost of software & maintenance

Consolidation of Software Lab Facilities

- Reduce cost of software development

Appliqué

- Exterior paint replacement option

Boeing “Fast Track” Initiatives

- Leveraging IR&D funds on top drivers



R-TOC Implementation Barriers

- Lack of Investment Funding
 - Tight money leads to rather 'pay Paul later than Peter now' attitude
- Color of Money
 - The 3400 Money Pot
 - Makes it difficult/if not impossible to track Savings
 - Can't use Savings for Investment Funding
- Challenge of Changing Culture



R-TOC Implementation Barriers

Funding Stability_-

Causes

- Taxes
 - Congressional Reductions
 - Small Business Innovation Research
 - Anser
- PBDs - Program Budget Decisions
- Reprogrammings
 - Omnibus

Effects

- Delay in Capability and Savings
- Increased Investment Funding



“Think TOC in all you do”

Bad to the BONE



Destroy Stuff...
...CHEAP!

**Any Dollar Anyone Of Us Saves
Benefits All Of Us**